Metric Measuring Madness

Earth Science/Geology   Mr. Traeger

Name: _____   Period: _____   Date: _____

Partners name: _____

Points: / 20

Purpose
To become familiar with and/or to review metric measurements and calculations.

Materials
- bathroom scale
- triple beam balance
- dice
- Irregularly shaped mineral (galena works best)
- meter stick
- calculator
- 100 mL graduated cylinder
- water

Procedure
Find the answers to the following items and express your measurements in the most appropriate units. Make sure to put units after the number that you measured. ***You will not get credit if you do not include units!***

Some Potentially Helpful Formulas
- area of a rectangle = length x width
- volume of a rectangular box = length x width x height
- 1 milliliter = 1 centimeter^3
- density = mass/volume

Question (1.5 points each)	Answer (make sure to <u>show your calculations</u>!)	What are the appropriate <u>metric units</u> for this measurement?	What *type* of measurement is this (distance, volume, mass, area, or density)?
1. What is your ***height***? What are the **units** for this type of measurement?			
2. What is your ***mass***? What are the **units** for this type of measurement?	Multiply your weight in pounds by 0.4535924 to get kilograms!		
3. What are the separate ***dimensions*** (length, width, and height) of your lab table? What are the **units** for this type of measurement?			
4. What is the ***area*** of your lab table? What are the **units** for this type of measurement?			
5. Imagine that your lab table is one big box. What would be the ***volume*** of your lab table? What are the **units** for this type of measurement?			

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Question (1.5 points each)	Answer (make sure to <u>show your calculations</u>!)	What are the appropriate <u>metric units</u> for this measurement?	What *type* of measurement is this (distance, volume, mass, area, or density)?
6. On the side counters, you will find a triple beam balance and some dice. What are the separate *dimensions* of one of the dice? What are the **units** for this type of measurement?			
7. What is the *mass* of one of the dice? What are the **units** for this type of measurement?			
8. What is the *volume* of one of the dice? How did you calculate this? *Hint: There are two ways to calculate volume of a regularly shaped object.* What are the **units** for this type of measurement?			
9. What is the *density* of one of the dice? What are the **units** for this type of measurement?			
10. Next to the triple beam balance, you will find an irregularly shaped mineral and a graduated cylinder. What is the mass of the mineral? What are the **units** for this type of measurement?			
11. What is the volume of the mineral? What are the **units** for this type of measurement? What was the only method that you could use to find the volume of an irregularly shaped object?			
12. What is the density of the mineral? What are the **units** for this type of measurement?			

<u>Conclusion (2 points)</u>

How comfortable do you feel with metric measurements and calculations after doing this activity? Could you do this by yourself if you had to?